

MANAGEMENT OPTIONS FOR SNAPPER IN SOUTH AUSTRALIA



PIRSA Fisheries and Aquaculture
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Government of South Australia
Primary Industries and Regions SA

An Invitation to Comment

Primary Industries and Regions South Australia, Fisheries and Aquaculture, invites anyone with an interest in the Snapper fishery to make a submission **using the attached feedback form** (found at **Attachment 1** at the back of this paper) regarding the proposed options outlined in this paper. A submission is a way to provide information, express your opinion and put forward your preferred course of action, including any alternative approaches.

Respondents are encouraged to reference the particular option or section of the report they wish to comment on. Please:

- refer each point to the appropriate section in the options paper
- clearly state your point of view
- indicate your reasoning or source of information

You may wish to agree, disagree, or comment on either general or specific matters outlined in the paper or introduce other options. If you disagree with a particular option please try to suggest alternative ways to address or resolve the issues identified in the paper. Clear reasons should be included in your response so that your views can be properly considered. The questions in the feedback form have been designed to assist you in providing comments and putting your information into context.

You may choose to make an individual submission or collaborate with a group of people to make a joint submission.

All submissions will be treated as public documents unless specifically marked confidential, and may be quoted in full or in part in any further reports. Following consideration of the matters raised in the submissions on the options paper, the Minister for Agriculture, Food and Fisheries will make a decision on future management arrangements. Legislative changes will then be required to implement the new arrangements.

The closing date for submissions is 31 January 2012.

Submissions should be addressed to:

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1 INTRODUCTION

This document outlines options for future management arrangements of the South Australian Snapper fishery (*Pagrus auratus*). The purpose of the options paper and background paper is to seek informed consultation and provide all stakeholders with an opportunity to have input into the future management arrangements for the fishery.

A separate background paper 'Background Paper for Management Options for Snapper in South Australia', provides additional information on the fishery, its current and past management and outlines the review process. Copies can be obtained from PIRSA Fisheries and Aquaculture and are available on the website <www.pir.sa.gov.au/fishing>.

This paper sets out the principles for management of the Snapper fishery and details the possible options for management and details the possible options for management, advantages and disadvantages of the options and a community feedback form for commenting on the options.

The Snapper fishery performance is strongly influenced by recruitment (the number of juvenile fish that are spawned and reach a size/age where they enter the fishery), which is variable from year to year. Total commercial catch and longline effort are at record high levels. While the Snapper biomass has recently been estimated to be relatively high (potentially due to good recruitment in recent years), once this biomass decreases continued commercial effort at the current level is not likely to be sustainable.

Revised management arrangements for Snapper are being considered because:

- Commercial catches have increased in recent years to be the highest on record in line with the increased biomass. Linked to increasing catches is an increase in longlining effort, which has included an activation of latent effort in the fishery and increased efficiency of fishers through gear modifications
- Recent catch and effort logbook figures have indicated there may be a decline in biomass of Snapper in Southern Spencer Gulf
- Reported commercial effort has continued to increase over the last two years as a consequence of fishers focusing on Snapper
- There is industry and community concern for the future stock status of Snapper and the economic return for the Snapper fishery at various times of the year

The recreational and charter fishing sectors will also be considered in the review, however changes to management arrangements mainly focus on the commercial sector due to the high catch and effort and potential impact on the resource.

A key outcome of this review must be management arrangements that effectively control the level of commercial impact on Snapper stocks, optimise Snapper spawning and recruitment, and support a sustainable Snapper fishery.

A working group, with expertise from the various sectors and assistance from the SA Research and Development Institute (SARDI) Aquatic Sciences was established by Primary Industries and Regions SA (PIRSA) to inform the development of this paper, and to particularly advise on management options and their suitability.

2 KEY ISSUES FOR MANAGEMENT

Status of Snapper

In August 2010 an assessment of the stock status for Snapper in South Australia indicated a generally positive view (Fowler et al. 2010). Estimates of regional fishery catches and catch rates were high, which were consistent with there being relatively high levels of biomass available to the fishers, even in regions that were not traditionally important Snapper fishing regions. Nevertheless, there were also some concerning indications for both Northern Spencer Gulf and Southern Spencer Gulf that related to the lack of recent recruitment to these regions.

The assessment described above reported commercial fishery statistics by financial year up to June 2009. Since then, the commercial fishery data have been examined for the period up to December 2010, reflecting some significant changes from the earlier status. Firstly, in 2009/10, the catches and catch rates for Southern Spencer Gulf declined dramatically, which indicated a considerable reduction in the fishable biomass. However, at the same time, the fishery statistics for both Northern Gulf St. Vincent and the South-East indicated the availability of a large fishable biomass as the estimates of catch, effort and catch rates continued to increase exponentially. As such, by June 2010, these two regions had replaced Spencer Gulf as the dominant contributors to the state-wide catch of Snapper. These spatial changes in the structure of the fishery were associated with a general change from a handline-dominated to a longline-dominated fishery. This trend of expanding longline fishing activity began in Southern Spencer Gulf in 2004/05 and by 2010 had spread broadly across the state sufficiently for longlines to account for the highest levels of commercial catch and effort for the first time.

High latent capacity

Fishing capacity is the amount of fish (or fishing effort) that can be produced over a period of time (e.g. a year or a fishing season) by a vessel or a fleet if fully utilised for a given resource. Latent capacity (also known as latent effort) is the fishing capacity (licensed potential) not currently deployed in a fishery. This includes licences and gear that are held but not used and fishers that are fishing below full capacity for many reasons (i.e. part time fishers or fishers targeting species other than Snapper in a multispecies fishery). Large amounts of latent capacity activating in the fishery could result in overfishing for some species and potentially shift available harvest away from current active, full time fishers.

Many licence holders in the Marine Scalefish Fishery (MSF), Rock Lobster fisheries (RL) and Lakes and Coorong Fishery (L& C) have the potential to fish for Snapper but currently do not or only catch very small amounts as their focus is on other operations (i.e. King George Whiting, Southern Rocklobster etc). In addition, there is gear, such as longlines, endorsed on licences which are currently not being utilised. Snapper stocks are considered fully utilised and there has been a mobilisation of effort in recent years which has resulted in an increase in catch. This high latent effort therefore represents a risk to the future sustainability of the fishery. It is also acknowledged that whilst there are many licences, hooks and longlines in the fishery that can fish for Snapper, not all of them will be activated at one time given the diversity of operations within the fishery.

There is significant capacity in the commercial fishing sector that could be used for Snapper with:

- 331 Marine Scalefish, 12 Restricted Marine Scalefish Fishery, 181 Southern Zone Rock Lobster Fishery, 68 Northern Zone Rock Lobster Fishery and 36 Lakes and Coorong Fishery licences that have some form of access to the Marine Scalefish Fishery (see Attachment 1 of background paper)
- 4,391 longlines in the fishery on 523 licences across all sectors
- 4,494 droplines on 277 licences
- All licences with access to the fishery can use 2 handlines per agent (skipper and 2 agents in the MSF) which means up to 6 handlines per vessel

3 REPRODUCTIVE BIOLOGY AND RECRUITMENT OF SNAPPER

Our understanding of the population biology of Snapper has developed through research since the 1980s, which has among other things identified the timing of reproductive activity. For Northern Spencer Gulf, the region for which we have the best information, gonad development commences in October after which the fish begin to form spawning aggregations during November. Spawning then commences in late November. The numbers of fish in the aggregations and the proportions of fish that are spawning increase through November, then peak in December, before they decline throughout January. Consequently, the number of eggs spawned also peaks during December and declines through January (Fig. 1). Further studies have indicated that the timing of gonad development and spawning varies between regions, generally occurring a few weeks later in the southern gulfs compared to the northern parts (Fig. 1). It is apparent from Figure 1 that the current fishery closure does not effectively protect the fish during the reproductive season when they aggregate and are most vulnerable to capture. Furthermore, the timing of the reopening of the fishery, which involves considerable boating activity, is currently thought to cause a significant disturbance to some of the larger spawning aggregations which could disrupt the spawning behaviour of the fish.

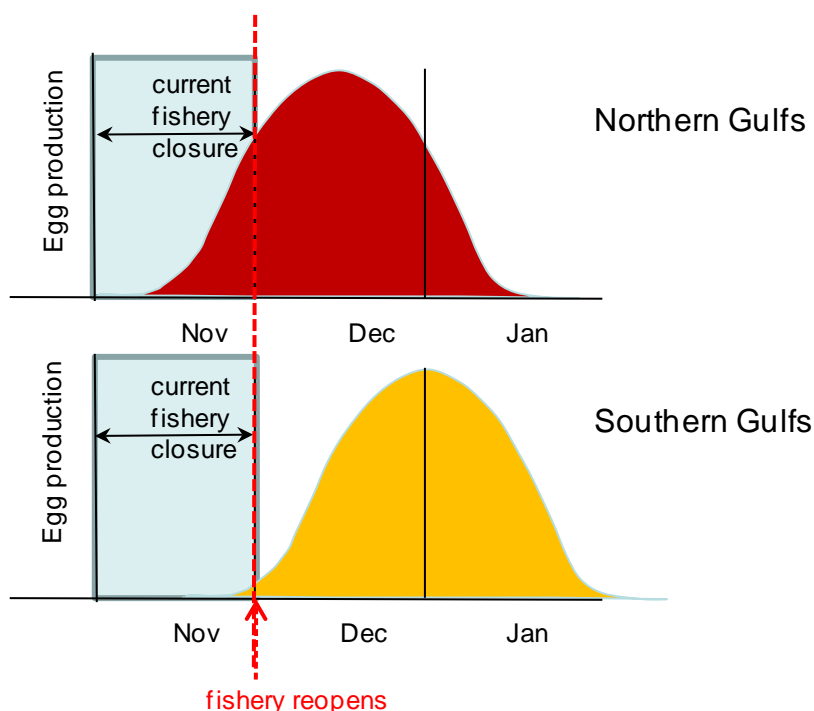


Fig. 1 Schematic diagram showing the timing of egg production by Snapper in both the northern and southern parts of the gulfs. The figure also shows the current timing of the fishery closure and when the fishery reopens. (Figure provided by SARDI Aquatic Sciences)

The spawning seasons for the different regions extend over numerous weeks during which many millions of eggs are released into the water column. Ultimately only a minute proportion of the larvae from these eggs survive to eventually recruit to the nursery areas as juvenile fish. This poor survivorship of eggs and larvae is influenced by the environmental conditions throughout the spawning season. As such, there are some periods in each season when most of the eggs and larvae die as the environmental conditions are not suitable for their survival. Nevertheless, there are also other periods when survivorship is higher because of suitable conditions. That the duration and timing of the latter periods are unpredictable and vary between years is likely to contribute to the inter-annual variation in recruitment that is characteristic of Snapper biology in South Australian waters. These findings suggest that the spawning aggregations should be protected and left undisturbed for as long as possible throughout each season to maximise the opportunity for successful reproduction and recruitment.

4 PRINCIPLES FOR MANAGEMENT

Principles for the management of the Snapper fishery have been developed with the working group so that there are clear objectives to guide decisions for long-term management of Snapper. These principles have been used in assessing the advantages and disadvantages of each management option.

The principles for management of the South Australian Snapper fishery are:

1. Long-term sustainable harvest of Snapper
2. Management arrangements must control catch or effort
3. Maintain or improve the quality of recreational and charter fishing experience (recognising the importance of large fish in the population)
4. Share the Snapper stock, in particular maintain catches within the allocations for each sector
5. Recognise the importance of Snapper to all stakeholders
6. Simple and effective rules to ensure cost effective management (including research, licensing and compliance) that allow for flexibility in responding to changing conditions in the fishery for improved fishery performance
7. Avoid creating unnecessary barriers for the supply of high quality product to the markets (including local markets)
8. Profitable and economically efficient Snapper fishery
9. Transparent decision making process which fosters trust between PIRSA and stakeholders
10. Science is used to underpin management decisions where available
11. Respect the social value of the fishery to regional communities

The working group discussed the imperatives for management change and concluded that in regard to activation of effort, the commercial sector is far more likely and able to respond to biomass increases and market demand. This is why management action is focussed on the commercial sectors. Management controls such as closures and size limits may be applied to all sectors where there is a benefit for stock sustainability.

5 MANAGEMENT OPTIONS

This options paper provides commercial and recreational fishers, the broader community and other stakeholders and agencies with an opportunity to comment on proposed options for the future management of the Snapper fishery.

PIRSA Fisheries and Aquaculture recognises that there are risks and benefits to the fishery and the community associated with each option. The potential ecological, social and economic impacts of each proposed option are discussed.

The options listed have been identified through previous Snapper management reviews and stakeholder discussions. Review of the options (advantages and disadvantages) has considered the objectives of the *Fisheries Management Act 2007*. A framework detailing the specific objectives and management strategies for fisheries management in SA is outlined in the background paper.

The ability of each option to achieve the principles must be considered in deciding which management arrangements should be implemented. A cost-effective compliance program will also be relevant to the evaluation of options or package of options.

A number of the individual management options may be combined to create an effective management framework to ensure the fishery's sustainability. Options are outlined in Table 1. The options have been categorised into the following categories: spatial, gear, catch, access and effort restrictions.

The discarded management options that have been considered by the working group to be unsuitable for the Snapper fishery can be found in Attachment 4 of the 'Background Paper for Management Options for Snapper in South Australia'.

Table 1: Management options and advantages and disadvantages

Management Options (for discarded management options please see 'Background Paper Management Options for Snapper in South Australia' – Attachment 4)					
	Type of management control	Management Option/Description	Advantages include:	Disadvantages include:	Average historical reduction in catch***
1.	Protects spawning biomass Effort Temporal	Extend seasonal closure to protect spawning aggregation of Snapper	<ul style="list-style-type: none"> ▪ Protects spawning aggregation during the critical time. ▪ Allows Snapper to commence aggregating (November) in the lead up to spawning ▪ Provides for Snapper not to be disturbed during spawning times (uninterrupted spawning behaviour of Snapper). Successful spawning times vary from year to year and cannot be predicted. The optimum time may vary from November through to mid January ▪ The behaviour of the fish during spawning may play a role in success of spawning and therefore future recruitment into the fishery. ▪ May provide for maximum recruitment. Enhanced recruitment would also mean increased production in the fishery ▪ Closure also reduces fishing effort for an additional month and half on top of the existing closure. This reduces the overall Snapper catch. Allowing more Snapper to live longer to reach a larger average weight and age, therefore producing more eggs and potentially increasing recruitment into the fishery ▪ The longer the closure the greater the period of protection over the spawning 	<ul style="list-style-type: none"> ▪ Depending on the timing, affects supply of fresh fish to the markets, especially leading up to Christmas ▪ Impacts on recreational fishing holidays/regional tourism ▪ Market price falls at the re-opening (over supply to the markets, reduces the price) for a short period of time ▪ Closure allows fish to aggregate and depending on the timing, make Snapper easier to target at the end of the closure which attracts fishers that may not have done so otherwise. Heavy targeting of Snapper after the closure ▪ Snapper fishers shift effort to target Calamary during the closure (which could increase effort on Calamary) ▪ Decrease in charter bookings (and income for charter operators) as Snapper are a key target species 	<ul style="list-style-type: none"> ▪ See options 1a to 1h below

Management Options

(for discarded management options please see 'Background Paper Management Options for Snapper in South Australia' – Attachment 4)

	Type of management control	Management Option/Description	Advantages include:	Disadvantages include:	Average historical reduction in catch***
			<p>period.</p> <ul style="list-style-type: none"> Equally applies to both the recreational and commercial sectors Closure is simple, easy for everyone to comply with and for compliance to enforce 		
1a		1 Nov to 15 Dec	<ul style="list-style-type: none"> See option 1 above for the advantages that apply for spawning closures The closure period applies equally for both sectors. 	<ul style="list-style-type: none"> The opening is during the peak of spawning. 	<ul style="list-style-type: none"> 17% #
1b		1 Nov 24 Dec	<ul style="list-style-type: none"> See option 1 above for the advantages that apply for spawning closures The closure period applies equally for both sectors 		<ul style="list-style-type: none"> 22% #
1c		1 Nov to 31 Dec	<ul style="list-style-type: none"> See option 1 above for the advantages that apply for spawning closures The closure period applies equally for both sectors 		<ul style="list-style-type: none"> 24% #
1d		15 Nov to 15 Dec	<ul style="list-style-type: none"> See option 1 above for the advantages that apply for spawning closures The closure period applies equally for both sectors 		<ul style="list-style-type: none"> 13% #
1e		15 Nov to 24 Dec	<ul style="list-style-type: none"> See option 1 above for the advantages that apply for spawning closures The closure period applies equally for both sectors 		<ul style="list-style-type: none"> 18% #
1f		15 Nov 31 Dec	<ul style="list-style-type: none"> See option 1 above for the advantages that apply for spawning closures The closure period applies equally for both sectors 		<ul style="list-style-type: none"> 20% #
1g		<p>Spilt closure</p> <p>Rec – 1 Nov to 26 Dec (8 weeks)</p> <p>Commercial – Closed</p>	<ul style="list-style-type: none"> See option 1 above for the advantages that apply for spawning closures Allows commercial fishers to supply fresh fish to the markets for the Christmas period 	<ul style="list-style-type: none"> Confusion within the community as a result of different access Hard for commercial fishers to work with fish markets and get value for money at this time 	<ul style="list-style-type: none"> 20% #

Management Options

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	Type of management control	Management Option/Description	Advantages include:	Disadvantages include:	Average historical reduction in catch***
		1 Nov to 17 Dec, Open 1 week to supply the markets for Christmas, then closed again from 23 Dec to 1 Jan (8 weeks)	<ul style="list-style-type: none"> ▪ Recreational fishers get to fish to opening of the closure for a week by themselves ▪ The closure period applies equally (for the same number of weeks) for both sectors 		
1h		1 Nov to 31 Jan	<ul style="list-style-type: none"> ▪ For purely biological considerations, a closure of the Snapper fishery for the entire time of the spawning aggregation period of November, December and January would be the ideal option and provide the greatest level of protection ▪ Protects the spawning biomass for the entire range of spawning in both gulfs ▪ Would provide for maximum egg production, recruitment and fishery production 	<ul style="list-style-type: none"> ▪ Economic and social impacts on all sectors, and potentially flow on effects to tourism. 	<ul style="list-style-type: none"> ▪ 35% #
Additional Commercial Controls					
2.	Effort Access	Individual Transferable Effort days (ITEs) for Snapper. This option limits the total number of commercial fishing days that can be fished across the fishery for Snapper. It's similar to Individual Transferable Quotas (ITQs), rather than using kilograms under the system of ITEs the fishing days are managed and monitored.	<ul style="list-style-type: none"> ▪ Constrains effort in the fishery by limiting the total number of days that can be fished for Snapper ▪ Would assist in managing catches within the commercial share of the resource ▪ Could be transferable ▪ Could limit new entrants to the fishery (manages latent effort) ▪ Management can be adjusted as the stock increases or decreases (effort days value to be moved up/down) subject to scientific advice ▪ Would promote stewardship in the fishery for those with access ▪ Tradable property right. Gives assurance to fishers qualifying for days to develop a business and concentrate on a principle 	<ul style="list-style-type: none"> ▪ Need a system to monitor days fished and landings (for example Vessel Monitoring System [VMS] or prior reporting). Costs for compliance have not been determined to implement such a system, but are likely to increase costs to those with access ▪ For fishers who were not allocated days, this would result in a loss in access to the fishery. Licence values may currently derive some value from the ability to fish for Snapper ▪ Opportunity will be lost for fishers to fish a school they come across if they haven't prior reported to fish for Snapper ▪ Fishers may use their days more efficiently to harvest fish (i.e. fishers may purchase bigger boats, change fishing practises, 	N/A

Management Options

(for discarded management options please see 'Background Paper Management Options for Snapper in South Australia' – Attachment 4)

	Type of management control	Management Option/Description	Advantages include:	Disadvantages include:	Average historical reduction in catch***
		<ul style="list-style-type: none"> ▪ This option would require an allocation process and formula for the allocation of days to individual fishers ▪ Would need to factor in travel time as well as fishing time 	<p>species</p> <ul style="list-style-type: none"> ▪ Effort days may be an easier method to enforce from a compliance viewpoint than catch quota because of the ability to monitor activity rather than catch. 	<p>undertake gear modifications, or fish for longer each day etc). This would reduce the effectiveness of the control over time or require it to be adjusted</p> <ul style="list-style-type: none"> ▪ Could be difficult to determine a suitable number of days to effectively constrain total harvest due to knowledge gaps around estimating Snapper biomass. ▪ Available days may be fished harder by operators leading to OHSW concerns ▪ Variability of Snapper availability ▪ May promote overcapitalisation (especially if the days are not set at the right level) ▪ ITEs may concentrate fishing rights to a minority of individuals or companies, who have the available capital to buy out their competitors' share. This may impact the small-scale regional nature of the fishery, which could impact socially and economically on regional communities ▪ Those that don't have effort days and are not able to land Snapper may incidentally catch Snapper when targeting other species (however current data suggests this is quite low) which could result in discarding and mortality of Snapper ▪ May create an incentive to fish closer so not to waste days in travel time (i.e. South East) ▪ Added complexity for fishers to undertake fishing for multi species on the same day 	
3.	Access Catch	Set a Total Allowable Commercial Catch (TACC) with Individual Transferable Quota	<ul style="list-style-type: none"> ▪ Constrains catch in the fishery by limiting the total amount of Snapper that can be caught ▪ Management can be adjusted as the 	<ul style="list-style-type: none"> ▪ Lack of stock understanding (the size and spatial extent of the Snapper population is not well understood) makes it difficult to set an appropriate TACC that would 	N/A

Management Options

(for discarded management options please see 'Background Paper Management Options for Snapper in South Australia' – Attachment 4)

	Type of management control	Management Option/Description	Advantages include:	Disadvantages include:	Average historical reduction in catch***
		<p>(ITQ).</p> <ul style="list-style-type: none"> ▪ Would need to undertake an allocation process and develop an allocation formula. ▪ Would need to decide on a suitable and precautionary TACC 	<p>stock increases or decreases (quota unit value to be moved up/down) subject to scientific advice</p> <ul style="list-style-type: none"> ▪ Tradable property right. Gives assurance to fishers qualifying for quota to develop a business and concentrate on a principle species ▪ Allows for fishers with quota to maximise economic return ▪ Avoids 'race for the fish' ▪ Explicit allocation to the commercial sector and to individual licence holders ▪ Could have quotas for different areas to address any spatial concerns ▪ Greater certainty and access security - Quota is an asset/right in the fishery, fishers with quota will have access to that portion of the fishery ▪ Would assist in managing catches within the commercial share of the resource ▪ Recognises fishers with established economic reliance/investment in the fishery ▪ May spread out the catches throughout the year and encourage better handling of fish, getting higher monetary return for the fish caught. ▪ Would promote stewardship in the fishery for those with access 	<p>effectively constrain the total harvest with confidence, would need to be set in a precautionary manner</p> <ul style="list-style-type: none"> ▪ Need a better estimate of biomass to set TACC, including some fishery independent information ▪ May be costly to implement and monitor. To ensure quota integrity there is a need to monitor the landings and the kilograms landed (for example, checking weight upon landing, prior to landing reports or VMS, catch disposal records etc). It is estimated the increased costs to monitor a TACC for Snapper (noting the many licence holders in the fishery, multiple landing points across the State, additional fisheries officers would be required) and undertake additional research to set a TACC is estimated to cost over \$1million per annum ▪ Risk of high grading ▪ Those without quota or not enough quota may shift effort onto other MSF species ▪ Fishers that are not allocated quota would lose access to the fishery, although they could purchase quota from another licence holder. Licence values may currently derive some value from the ability to fish for Snapper ▪ ITQs may also concentrate fishing rights to a minority of individuals or companies, who have the available capital to buy out their competitors' share. This may impact the small scale regional nature of the fishery, which could impact socially and 	

Management Options

(for discarded management options please see 'Background Paper Management Options for Snapper in South Australia' – Attachment 4)

	Type of management control	Management Option/Description	Advantages include:	Disadvantages include:	Average historical reduction in catch***
				<p>economically on regional communities</p> <ul style="list-style-type: none"> ▪ Those that don't have quota may incidentally catch Snapper when targeting other species (however current data suggests this is quite low). This could result in discarding and mortality of Snapper ▪ Separate spatially based TACCs would require separate or duplicated allocation processes and management processes and better research processes to account for regional variation in biomass. 	
4.	Catch	<p>Introduce daily catch limits</p> <p>Set as a commercial day limit that applies equally across the fishery</p>	<ul style="list-style-type: none"> ▪ Limits catch/effort ▪ Can be monitored by weight or volume (bins) per trip ▪ Constrains the catch in the fishery ▪ Treats everyone in the fishery the same, applies equally to everyone ▪ Not as costly to implement and manage on an ongoing basis as a TACC / ITQ 	<ul style="list-style-type: none"> ▪ Dedicated (specialised) Snapper fishers that have a business reliance on the Snapper fishery (and who have the greatest catch) will be the most financially affected depending upon the limit set. ▪ Dedicated Snapper fishers may shift effort to other species ▪ Multiple day trips are problematic ▪ Small trip limits may make bigger boats travelling to fish unviable which could result in more small boats fishing in the Gulfs (concentrating effort) ▪ Would increase management/compliance costs. Would need to monitor landings (for example random landing checks or prior reporting to fishing and landing or VMS) to ensure day limits are not exceeded ▪ Such a limit may inhibit investment in the fishery (limit size of vessel) and restrict the practices of a number of current fishers ▪ Lack of stock understanding makes it difficult to set an appropriate trip limit with 	See below options a through to (4c) below

Management Options

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	Type of management control	Management Option/Description	Advantages include:	Disadvantages include:	Average historical reduction in catch***
				<p>confidence</p> <ul style="list-style-type: none"> Would need to be precautionary in setting a day limit and may not be able to directly control total harvest, i.e. assuming many operators will choose to catch the limit Impacts on the value of the licence 	
4a	Catch	500kg	<ul style="list-style-type: none"> See above 	<ul style="list-style-type: none"> See above 	<ul style="list-style-type: none"> 17% *
4b	Catch	750kg	<ul style="list-style-type: none"> See above 	<ul style="list-style-type: none"> See above 	<ul style="list-style-type: none"> 9% *
4c	Catch Access	<p>Nominate a day limit</p> <p>Licence holders to nominate a day limit with an associated additional fee, funds to be used to purchase longline endorsements, e.g.</p> <p>300 kg – no additional fees 600 kg – additional fee of \$2 500** 1 000 kg – additional \$7 500**</p> <p><i>** The \$\$ figures are only a suggested proposal and would need to be developed further through cost recovery discussions with the relevant industry associations.</i></p> <p>Licence holders would be required to</p>	<ul style="list-style-type: none"> This option has similar advantages as the introduction of day limits option Addresses latent effort in the fishery Would enable an industry funded restructure to reduce total effort on Snapper over time Larger operators have more flexibility in this option than other options to choose their level of access Licences which retain longlines may increase in value as less longlines are in the fishery (return on their investment) Prevents short term participants in the fishery exploiting openings and spikes in Snapper biomass 	<ul style="list-style-type: none"> This option has similar disadvantages as the introduction of day limits option There may be increased compliance effort (and therefore costs) to check the different trip limits being landed by fishers A Snapper focus on longline management could limit options for future development of other species based fisheries that require a longline 	<ul style="list-style-type: none"> N/A – Not able to be modelled as the reduction depends on the numbers of fishers that select each option.

Management Options (for discarded management options please see 'Background Paper Management Options for Snapper in South Australia' – Attachment 4)

	Type of management control	Management Option/Description	Advantages include:	Disadvantages include:	Average historical reduction in catch***
		<p>nominate prior to the start of the year. Once nominated, this could not be changed through the year</p> <p>It is proposed the collection of these additional fees (being in addition to the costs already collected for management, compliance and research costs for Snapper) would be administered by PIRSA for purchasing longline endorsements. The funds would be used in a first come first served basis until exhausted for that year</p> <p>Would need to decide on when the scheme should finish – e.g. sunset clause for a time period or a target on how many longline endorsed licences should remain in the fishery</p>			

*****Note:** The modelled reductions in the table were calculated using historical data from different years. See the SARDI report Richard McGarvey, Paul Burch and John E. Feenstra, Management Strategy Evaluation for South Australian Snapper, May 2010, for background on the methods used for modelling. The report is available at <http://www.sardi.sa.gov.au/fisheries/publications/2010_publications>. In order to include historical catches for November, as some of the closure options included parts of November, older data was needed to be used prior to the closure. The estimated reductions are only an indicator and are based on historical catches and fishing patterns which may change over time.

1995-1999

* 2004-2010

6 PREFERRED OPTION/S

The Working Group's preferred option is to have a closure to protect spawning biomass, and an additional complementary management option for the commercial sector with the aim to reduce the total commercial Snapper effort by 20% (including any reduction from the increase in the closure time).

Ideally, closing the fishery from November through to January provides the greatest protection for spawning Snapper populations. The working group notes that this would have significant impacts on all sectors both economically and socially. As such, PIRSA and the working group would like feedback on various closure options to find the options that balance biological, economic and social aspects of the fishery.

6.1 *Rationale*

A spawning closure provides benefits for egg production and potentially recruitment through protecting the Snapper aggregation in the lead up to and during spawning times. This would allow more Snapper to have the opportunity to spawn prior to capture. In addition, the closure would also provide a reduction in catch, reducing the harvest fraction of Snapper. This measure seeks to optimise Snapper spawning and recruitment, fishery production and a sustainable Snapper fishery.

Additionally, complementary management arrangements will focus on the commercial sector due to the high catch and effort and potential impact on the resource. A total 20% reduction target in commercial effort was selected as a target (including the reduction from the closure). This target was chosen as the commercial sector has increased its effort, outside of the existing effort limitation programs, on Snapper by more than 10% (which was the target of the previous reduction in effort, namely the November closure.) The fishery responded favourably from the initial 10% reduction. Given the increase in commercial effort, the Snapper Working Group felt that a greater reduction in effort would be required at this time, compared to the previous 10% reduction. This reduction also takes into account the precautionary principle due to the uncertainties in stock size and movement. As a result of these factors, the Working Group decided on a 20% reduction. This is a precautionary and adaptive management approach. The fishery will continue to be monitored to assess the response of the fishery to these measures.



7 ATTACHMENT 1: COMMUNITY FEEDBACK FORM

Management Options for Snapper in South Australia

Submissions should be addressed to:

Michelle Besley
Fishery Manager, Marine Scalefish Fishery
PIRSA Fisheries and Aquaculture
GPO Box 1625,
Adelaide SA 5001
Michelle.Besley@sa.gov.au

Name: _____

Age (optional):

- 5-14 15-29 30-44
- 45-59 60+

Address: _____
_____ Post code: _____

Email: _____

What is your interest in the management of Snapper?

- Recreational Fishing Tourism
- Cultural Conservation
- Charter Boat Fishery Commercial (Fishery Name) _____
- Other _____

Why is Snapper important to you?

Which proposed options do you prefer? And why?

Spawning closure:

- | | | |
|-------------------------------------|-------------------------------------|-------------------------------------|
| <input type="checkbox"/> Option 1a. | <input type="checkbox"/> Option 1b. | <input type="checkbox"/> Option 1c. |
| <input type="checkbox"/> Option 1d. | <input type="checkbox"/> Option 1e. | <input type="checkbox"/> Option 1f. |
| <input type="checkbox"/> Option 1g. | <input type="checkbox"/> Option 1h. | |

Reasons why?

Additional commercial controls:

- | | |
|---|--|
| <input type="checkbox"/> 2. ITE | <input type="checkbox"/> 3. TACC with ITQ |
| <input type="checkbox"/> 4a. Day limit 500kg | <input type="checkbox"/> 4b. Day limit 750kg |
| <input type="checkbox"/> 4c. Nominate a day limit | |

Reasons why?

Do you have any alternative options for management of the Snapper fishery that have not been included in the Options Paper or Background Paper?

If you fish, do you fish for other species besides Snapper?

What fishing gear do you use to catch Snapper?

Where do you generally fish?

- | | |
|--|---|
| <input type="checkbox"/> Southern Spencer Gulf | <input type="checkbox"/> Northern Spencer Gulf |
| <input type="checkbox"/> Southern Gulf St Vincent | <input type="checkbox"/> Northern Gulf St Vincent |
| <input type="checkbox"/> Outside the Gulfs (where) _____ | |

What months do you fish for Snapper and why?

- | | | | |
|------------------------------------|----------------------------------|-----------------------------------|---------------------------------|
| <input type="checkbox"/> Jan | <input type="checkbox"/> Feb | <input type="checkbox"/> March | <input type="checkbox"/> April |
| <input type="checkbox"/> May | <input type="checkbox"/> June | <input type="checkbox"/> July | <input type="checkbox"/> August |
| <input type="checkbox"/> September | <input type="checkbox"/> October | <input type="checkbox"/> December | |

What economic and/or social impacts would any of the options in the paper have on you or your community?

Thank you for your feedback